

# Hemodialysis...

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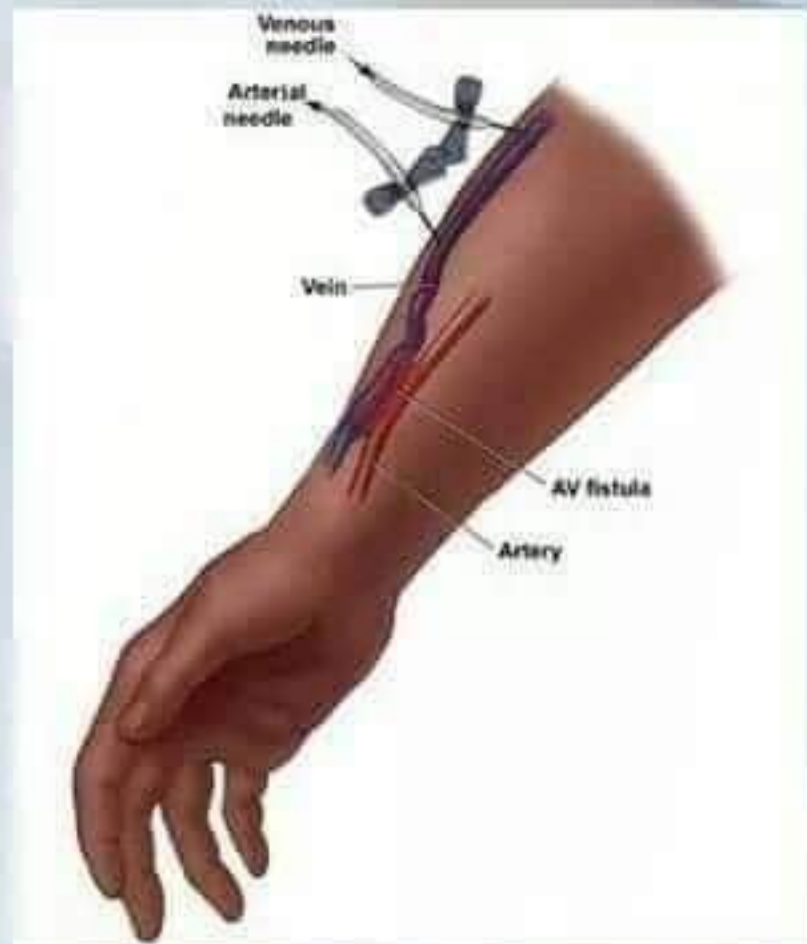
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# Internal AV Fistula

- ❑ for chronic dialysis clients
- ❑ created surgically by anastomosis of a large artery & a large vein in the arm
- ❑ Maturity: veins become engorged due to the flow of arterial blood into the venous system; takes 1-2 wks.
- ❑ Maturity is required before the fistula can be used



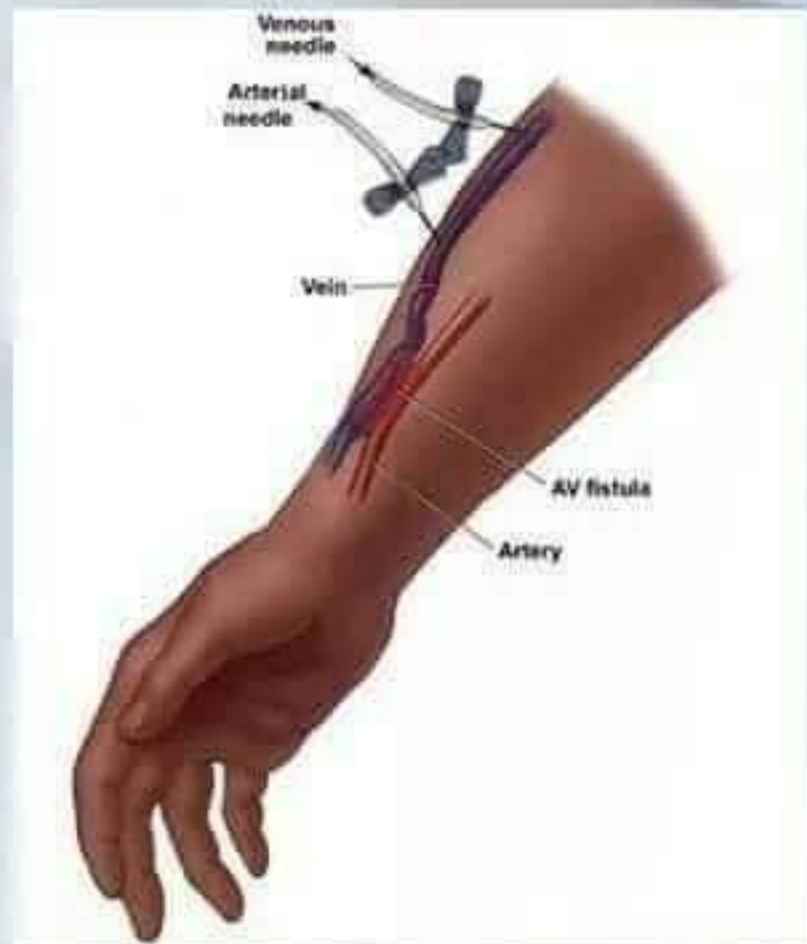
# External AV Shunt

Access is formed by the surgical insertion of 2 silastic cannulas into an artery or vein in the forearm or leg to form an external blood path.



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# Peritoneal Dialysis

- Peritonealcavity: reservoir for dialysate
- Peritoneum: semipermeable membrane across which excess body fluid and solutes are removed
- Polyurethane or silicone catheter

## Peritoneal Capillaries

Fluid  
Urea  
Creatinine  
Potassium

## Peritoneal Cavity

Sodium  
Chloride  
Lactate  
Glucose

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# PERITONEAL DIALYSIS

## Calculation of Glucose Absorbed in Peritoneal Dialysis Patients

- 60% of daily dialysate glucose load is absorbed

$$\text{glucose absorbed (kcal)} = (1 - D/D_0) \times i$$

where  $D/D_0$  is the fraction of glucose remaining and  $i$  is initial glucose

# Renal MNT

Treatment	Pre-Stage 5 CKD	Hemodialysis	Peritoneal Dialysis
Protein (gm/kg SBW)	.6-.8  65% HBV	≥1.2 for stable patients  ≥ 50% HBV	1.2-1.3 for stable patients  ≥ 50% HBV
Energy (kcal/kg/SBW)	35	30-35	30-35
Phosphorus (mg/kg SBW)	800-1000 (10-12 mg/gm protein)	800-1000 (10-12 mg/gm protein)	800-1000 (10-12 mg/gm protein)
Potassium (mg/d)	Typically unrestricted	2000-3000	3000-4000
Sodium (mg/d)	1000-3000	2000-3000	2000-4000
Fluid (ml/d)	Typically unrestricted	750-1000 + 24 hr urine output	2000



# PERITONEAL DIALYSIS

## Nutritional Indicators, Target, and Frequency

Indicator	Target	Frequency
Serum Albumin	$\geq 4.0$ mg/dL	Monthly
Serum Prealbumin	$>30$ mg/dL	As needed
Serum Cholesterol	$> 150-180$ mg/dL	As needed
Lipid Profile	LDL: $< 100$ mg/dL HDL: $> 150$ mg/dL Triglycerides: $< 150$ mg/dL	As needed
Serum Creatinine (pre-dialysis treatment)	$> 10$ mg/dL	Monthly
nPNA (protein equivalent of total nitrogen appearance normalized to body weight)	$> 1.0$	HD: Monthly PD: Every 4 months